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TITLE: Anti-cancer vaccine

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INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bystryn; Jean-Claude	New York	NY	10024	

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CLAIMS:

What is claimed is:

1. A polyvalent vaccine comprising multiple cancer cell surface antigens shed from different cells of one type of human cancer upon culturing the cells in a serum-free medium wherein the shed antigens are separated from cytoplasmic cellular components and wherein the cancer cells have been previously adapted to a serum-free medium.
2. A vaccine in accordance with claim 1 wherein said cancer cells are lung cancer cells.
3. A vaccine in accordance with claim 1 wherein said cancer cells are colon cancer cells.
4. A vaccine in accordance with claim 1 wherein said cancer cells are breast cancer cells.
5. A vaccine in accordance with claim 1 wherein said cancer cells are prostate cancer cells.
6. A vaccine in accordance with claim 1 wherein said cancer cells are stomach cancer cells.
7. A vaccine in accordance with claim 1 wherein said cancer cells are bladder cancer cells.
8. A vaccine in accordance with claim 1 wherein said cancer cells are pancreas cancer cells.
9. A vaccine in accordance with claim 1 wherein said cancer cells are liver

cancer cells.

10. A vaccine in accordance with claim 1 wherein said cancer cells are kidney cancer cells.

11. A vaccine in accordance with claim 1 wherein said cancer cells are ovary cancer cells.

12. A vaccine in accordance with claim 1 wherein said cancer cells are cervix cancer cells.

13. A vaccine in accordance with claim 1 wherein said cancer cells are lymphoma cancer cells.

14. A vaccine in accordance with claim 1 wherein said cancer cells are leukemia cancer cells.

15. A vaccine in accordance with claim 1 wherein said cancer cells are testicle cancer cells.

16. A vaccine in accordance with claim 1 wherein said cancer cells are esophagus cancer cells.

17. A vaccine in accordance with claim 1 wherein said cancer cells are uterus cancer cells.

18. A polyvalent vaccine comprising multiple cancer cell surface antigens shed from different human cancer cell lines, all of which are one type of human cancer, upon culturing the cell lines in a serum-free medium wherein the antigens are separated from cytoplasmic cellular components and wherein the cancer cells have been previously adapted to a serum-free medium and wherein the shed antigens are pooled.

19. A vaccine suitable for administering to a human for the treatment of cancer comprising shed cancer cell surface antigens and a suitable physiologically acceptable carrier therefor, wherein the antigens are prepared by:

a) culturing a pool of different human cancer cells of one type of human cancer that shed cell surface antigens in a serum-free medium wherein said cells are selected based on shedding a different pattern of cell surface antigens that differ in molecular weight and wherein said human cancer cells, prior to culturing, having been adapted to and maintained in a serum-free medium;

b) subjecting the culture medium to a particle separation operation to remove the cells;

c) concentrating the resulting cell free culture medium thereby recovering the resulting shed antigens.

20. A polyvalent vaccine useful for the treatment of human cancer consisting essentially of multiple cancer-associated cell surface antigens shed upon culturing multiple different human cancer cells in a serum-free medium, wherein the cancer cells have been previously adapted to a serum-free medium and wherein the cancer cells shed different molecular weight cancer-associated

cell surface antigens during culturing in a serum-free medium.

21. A polyvalent vaccine useful for the treatment of human cancer consisting essentially of multiple cancer-associated cancer cell surface antigens shed upon culturing human cancer cell lines in a serum-free medium wherein the cancer cells have been previously adapted to serum-free medium and wherein the shed cancer cell surface antigens from multiple different cancer cell lines are pooled.

22. A polyvalent vaccine comprising human cancer cell surface antigens obtained from cell culture medium in which a human cancer cell is incubated and wherein the antigens are shed from the cell and separated from the cell and cellular components present in the medium.

23. The vaccine of claim 22, wherein the culture medium is serum-free medium.

24. The vaccine of claim 22, wherein the human cancer cell is from a human cancer cell line.

25. The vaccine of claim 22, wherein the human cancer cell is obtained from a cancer patient.

26. The vaccine of claim 25, wherein the human cancer cell is obtained from a tumor in the cancer patient.

27. The vaccine of claim 22, wherein the human cancer cell is a melanoma cell, a lung cancer cell, a breast cancer cell, an ovarian cancer cell, a cervical cancer cell, a colon cancer cell, a head and neck cancer cell, a pancreatic cancer cell, a prostate cancer cell, a stomach cancer cell, a bladder cancer cell, a kidney cancer cell, a bone cancer cell, a liver cancer cell, an esophageal cancer cell, a brain cancer cell, a testicular cancer cell, a uterine cancer cell, a leukemia cancer cell, or a lymphoma cancer cell.

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